


A Table of the Length of every second Day in the Year, Lat. London 51 32.

Days	Jan.	Febr.	March	April	May	June	Days	July	Aug.	Sept.	Octob	Nov.	Dece.
	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.		h. m.	h. m.	h. m.	h. m.	h. m.	h. m.
2	8 1	9 41	11 30	13 30	15 17	16 21	2	16 4	14 36	12 41	10 43	8 48	7 40
4	8 6	9 48	11 38	13 38	15 24	16 22	4	16 0	14 29	12 33	10 35	8 42	7 39
6	8 11	9 55	11 46	13 46	15 30	16 23	6	15 56	14 22	12 25	10 27	8 36	7 38
8	8 16	10 3	11 53	13 54	15 35	16 24	8	15 52	14 15	12 17	10 20	8 30	7 36
10	8 22	10 11	12 1	14 2	15 40	16 25	10	15 47	14 8	12 10	10 12	8 24	7 35
12	8 28	10 19	12 9	14 9	15 45	16 25	12	15 42	14 0	12 2	10 4	8 18	7 35
14	8 34	10 27	12 17	14 16	15 50	16 24	14	15 37	13 53	11 54	9 56	8 13	7 36
16	8 40	10 34	12 25	14 23	15 55	16 23	16	15 32	13 46	11 46	9 48	8 8	7 37
18	8 46	10 41	12 33	14 31	16 00	16 22	18	15 26	13 39	11 38	9 40	8 3	7 38
20	8 53	10 49	12 41	14 38	16 4	16 21	20	15 20	13 32	11 20	9 33	7 58	7 40
22	9 0	10 57	12 48	14 45	16 8	16 20	22	15 14	13 24	11 23	9 26	7 54	7 42
24	9 7	11 5	12 56	14 52	16 11	16 17	24	15 7	13 16	11 16	9 19	7 51	7 45
26	9 15	11 13	13 4	14 59	16 14	16 14	26	15 0	13 8	11 9	9 12	7 48	7 48
28	9 22	11 22	13 12	15 5	16 17	16 11	28	14 54	13 0	11 2	9 5	7 45	7 51
30	9 29		13 20	15 11	16 19	16 8	30	14 48	12 52	10 55	8 58	7 42	7 55

The Description and Use of the Spot Dial.

THe Streight Lines on these Dials, marked with Letter-Figures, are for the whole Hours of the Day; and those between them are either Halfs or Quarters, &c. the other Lines marked at each End, or at one end with Arithmetical Figures, are to shew the Length of the Day, and by help of the Table will find the Hour very exactly; the Plummet hanging on the side of the Dials, is to set it upright, which you must be sure always to do. *The Uses Follow.*

 If the Dial be made for the Declination of a particular Window or Side of a House, then turn the back Side to the Sun, setting it close to the bottom Rail of the Window, so shall the Sun cast a Spot of Light through the Hole upon the Dial, the Centre whereof will shew the true Hour and Length of the Day, both together: And on this Condition we have no need of the Table.

But to set it in any Place, not knowing the Situation thereof, you are to look in the Table for the Day of the Month, and against it you have the Length of the Day; then turn about the Dial until you bring the Spot among the Lines for the Length of the Day, answerable to what you found the Length of the Day in the Table; and it will shew the Hour of the Day.

The better to accommodate the Table of the Length of the Days (which doth consist of Hours and Minutes) to the Use of the Dial, let it be considered, That the Space between each Line on the Dial for the Length of the Day, doth contain a whole Hour; and so may be supposed to be divided into sixty Minutes or Parts; from whence it follows, That twenty Minutes in the said Table will be equal to $\frac{1}{3}$ of that Space, 15 Minutes to $\frac{1}{4}$, 12 Minutes to $\frac{1}{5}$, 10 Minutes to $\frac{1}{6}$, 5 Minutes to $\frac{1}{12}$, and so of any other; which being well understood, it will be easie to bring the Spot of Light on the Dial to answer any Hour and Minute in the Table: *ex. gr.*

On the sixth of May I find by the Table the Day is 15 Hours and 30 Minutes Long, which is 15 Hours and $\frac{1}{2}$; then if I turn the Dial about, till the Spot come just in the Middle, between the two Lines in the Dial, marked at each End with 15 and 16, it will shew the true Hour of the Day: If the Day had been just 15 Hours long, then the middle of the Spot must have been brought just on that Line. Again, if the Day were 15 Hours and 20 Minutes long, which are one third of an Hour, then must the spot be brought to $\frac{1}{3}$ of the Space between the Lines of 15 and 16 Hours, and the like of any other Parts of an Hour, as is noted before.

Also it is to be minded, that having once set this Dial true in any Place, and drawn a Line by the Side of it, you may at any time by applying the same Side of the Dial just to that Line, find the Hour and Length of the Day without any more Trouble.

You may observe here being Dials, it will be convenient and sometimes necessary to make use of that Dial which is nearest the Situation of the Window, or Place you set it in; *viz.* to use the East Dial in that Window which is nearest the East, the South in that nearest the South, &c. And that because in the Summer-time it will be late in the Morning before the Sun will shine strong on a South Plane, and also will quickly leave it again in the afternoon.

If you would find the Sun's Rising and Setting by these Dials, then you must carry your Eye along the Lines for the length of the Day, or on any Part between them, to the Lines marked with Sun-Rise and Sun-Set, and among the Hours you have the time of the Sun's Rising and setting. Divers other Astronomical Lines, instead of the Hour and Length of the Day may be put on these Dials, if required.

These Dials are made by William Winch, Glazier, at the end of Bread-street, next Cheap-side, where you may have any Work in coloured Glass, as Arms, Sun-Dials, History, Landkip, &c. or any Wall-Dials to be done.

